

Perspective Paper

One Health: From Managing Risk to Improving the Whole System

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KEY TAKEAWAYS:

- **Food and agriculture are central to One Health.** Agrifood systems connect animal health, natural resources, sustainability, human nutrition, and livelihoods. One Health offers a pathway to policy coherence in identifying solutions that create benefits across these interconnected priorities.
- **The next step is practical application.** One Health is well established in international, scientific, and veterinary circles, but its value will depend on moving from institutional frameworks into the decisions made across real food systems.
- **Dairy can help show what One Health looks like in practice.** The sector simultaneously influences animal health, natural resources, environmental performance, livelihoods, and nutrition, creating both trade-offs and opportunities for co-benefits.

Global health challenges require integrated solutions. Human health cannot be separated from the food systems that depend on healthy animals, ecosystems, and the farmers who tend to them. Decisions made to improve one outcome can create consequences, positive or negative, elsewhere in the system.

One Health provides a framework for understanding and managing these connections. Once associated primarily with zoonotic disease and veterinary medicine, it is increasingly understood as a broader systems approach built on a simple proposition: the health of people, animals and ecosystems is interconnected¹.

The opportunity now is to take One Health beyond the institutions and disciplines in which it developed and apply it more deliberately to real food systems - moving beyond managing individual risks to asking a broader question: how can we improve human, animal, environmental and socio-economic outcomes together?

Few sectors illustrate that opportunity more clearly than dairy. The sector touches nutrition and health, animal care, climate, natural resources, and livelihoods, creating both a responsibility to continue improving these outcomes and an opportunity to demonstrate what One Health can look like in practice.

What is One Health?

The One Health High-Level Expert Panel established by the Food and Agriculture Organization of the United Nations (FAO), World Health Organization (WHO), the United Nations Environment Programme (UNEP) and the World Organisation for Animal Health (WOAH) define One Health as,

“an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems.”¹

The definition recognizes that the health of humans, domestic and wild animals, plants and the wider environment are closely linked and interdependent. It calls for different sectors, disciplines, and communities to work together to foster well-being, address threats to health and ecosystems, provide safe and nutritious food, respond to climate change, and contribute to sustainable development.

This breadth is important. One Health was traditionally understood as a framework for controlling zoonotic diseases, those that move between animals and humans. While zoonotic disease remains an essential part of the agenda, alongside efforts to combat antimicrobial resistance, improve food safety and strengthen pandemic preparedness, these are no longer the boundaries of One Health. The internationally agreed definition is deliberately systemic. It recognizes that health is produced, or undermined, through interactions among people, animals, and the environments they share.

How One Health Evolved

The One Health concept grew from “One Medicine,” which recognized the shared biological foundations of human and veterinary medicine. Emerging infectious diseases, changing land use, biodiversity loss, globalization, antimicrobial resistance, and environmental pressures made clear that human and animal health could not be separated from the ecosystems in which they exist.

That evolution is reflected in today's One Health Quadripartite, which brings together FAO, WHO, WOAH, and UNEP to lead the initiative. Together, these organizations bring human health, animal health, food and agriculture, and environmental perspectives into a common framework for coordinated international action, the **One Health Joint Plan of Action for 2022–2026**.²

This broad approach requires agriculture to be fully present. One Health should not become human-health policy applied to agriculture, nor agricultural policy insulated from legitimate health and environmental concerns. Its purpose is to bring those perspectives together. Farmers, food businesses, researchers, public health experts, environmentalists, and civil society all share the responsibility: not to redefine One Health around their own interests, but to contribute evidence, experience, and practical solutions.

Importantly, One Health is not simply a concept for international institutions. In dairy, many of its connections are already being managed every day:

- **Human nutrition and health:** safe, nutritious dairy foods provide high-quality protein and essential micronutrients that support healthy diets, while the health of the animals, farms, and food systems that produce them helps determine their availability, safety, and affordability.
- **Healthy animals:** better animal care, feed, genetics, and management can improve productivity and farm resilience while reducing resource use and emissions intensity.
- **Natural-resource management:** better manure management can improve nutrient cycling and soil health, protect water quality, and reduce emissions.
- **Responsible antimicrobial stewardship:** supports animal health and welfare while helping preserve medicines important to both human and veterinary health.

These outcomes, however, are often treated as separate nutrition, animal-care, environmental, or sustainability issues. A One Health perspective recognizes them as interconnected outcomes of the same food system. Therefore, leadership in One Health does not mean claiming that dairy has solved every challenge; it means engaging openly with those challenges and improving outcomes across the whole system.

From Managing Risk to Promoting Health

The contemporary definition of One Health does not abandon zoonotic disease, antimicrobial resistance, or pandemic preparedness. It places them within a larger system. The One Health framework shifts the defining policy question from “How do we prevent one part of the system from harming another?” to “How do we improve the health of the whole system?” That shift is significant: One Health can be more than a framework for managing risks; it can also become a framework for promoting health and identifying co-benefits across human, animal, environmental, and community outcomes.

The world's food systems are being asked to nourish a growing population, improve health, support livelihoods, reduce environmental impacts, adapt to climate change, and remain resilient in the face of economic and geopolitical disruption. These objectives cannot be achieved by optimizing one part of the system while ignoring the others. A One Health approach does not require choosing among these realities. Its value is that it considers them together.

Dairy can help lead the next phase of One Health by bringing credible evidence and practical experience to the table, confronting trade-offs openly, and demonstrating how better outcomes can be achieved across the system. No single outcome tells the complete story of dairy; together, they demonstrate why a systems perspective is necessary.

DAIRY LEADERSHIP: A CALL TO ACTION

Embrace One Health as an opportunity to lead through systems thinking.

The dairy sector should actively contribute to the evolving One Health conversation, bringing credible evidence and practical experience across nutrition, animal care, environmental sustainability, and livelihoods.

By engaging openly with trade-offs and demonstrating how interconnected outcomes can be improved together, dairy can help move One Health beyond managing individual risks toward improving the health of the whole system.

For more information on the Global Dairy Platform's Perspective Papers, please reach out to Dr. Beth Bradley at beth.bradley@globaldairyplatform.com.

References

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2. FAO, UNEP, WHO, and WOA. 2022. One Health Joint Plan of Action (2022-2026). Working together for the health of humans, animals, plants and the environment. Rome. <https://doi.org/10.4060/cc2289en>